

**REMARKS****Status of the claims:**

With the above amendments, claims 42, 44, 47, 48, 50-56, 58, and 62-65 have been canceled, claims 43, 57, and 59-61 have been amended, and claims 66-68 have been added. Thus, claims 25-26 and 43, 45, 46, 49, 57, 59-61 and 66-68 are pending and ready for further action on the merits. No new matter has been added by way of the above amendments. The claims have been amended as suggested by the Examiner. Claim 43 has been amended by incorporating the products made as appear in claim 42. New claim 66 has support at page 19, lines 9-10, page 16, lines 27-28, page 47, line 14 et seq., and page 51, line 17 et seq. New claim 67 has support at page 16, line 11, for example. New claim 68 has support at page 7, line 5, for example. Reconsideration is respectfully requested in light of the following remarks.

**Written Description Objections**

The Examiner has objected to the cite of a reference because it was published after the filing date of the instant invention. Applicants have amended the written description back to the hyperlink that was previously present. Applicants, respectively point the Examiner to MPEP §608.01, which states:

*Where the hyperlinks and/or other forms of browser-executable codes are part of applicant's invention and it is necessary to have them included in the patent application in order to comply with the requirements of 35 U.S.C. 112, first paragraph, and applicant does not intend to have these hyperlinks be active links, examiners should not object to these hyperlinks. The Office will disable these hyperlinks when preparing the text to be loaded onto the USPTO web database.*

From this passage, Applicants submit that the Examiner should not object to the hyperlink. Withdrawal of the objection is warranted and respectfully requested.

#### **Claim Objections**

Claims 42 and 43 are objected to for reciting "improving yield" and claims 57, 62 and 64 are objected to for reciting "improving the yield". The Examiner has suggested amending the claims to recite "increasing yield" and "increasing the yield". Applicants have canceled claims 42, 62 and 64 so the objections with respect to those claims is moot. Applicants have amended claims 43 and 57 in accordance with the Examiner's suggestion. Thus, withdrawal of the objection is warranted and respectfully requested.

Claim 52 has been objected to for reciting "The method of claim 51, wherein said method produces . . .". The Examiner has suggested amending the claims to recite "The method of claim 51, further comprising . . .". Applicants have canceled these

claims. Thus, the objection is moot. Withdrawal of the objection is warranted and respectfully requested.

The Examiner has objected to the claims for reciting "protein" saying that "enzyme" should be used. Applicants have amended the claims accordingly. Withdrawal of the objection is warranted and respectfully requested.

**Rejections under 35 USC §112, second paragraph**

Claims 42-50 and 53-64 are rejected under 35 USC §112, second paragraph as allegedly being indefinite.

Claims 42, 43, and 64 are rejected for reciting "microorganism" in the sixth line of these claims. Claims 62 and 43 recite "microorganism" in the third line. Claim 50 recites "microorganism" in the fourth line. The Examiner asserts that claim 57 recites "microorganism" in the 74th line. Applicants believe that the Examiner meant the eighth line. The Examiner asserts that there is insufficient antecedent basis for these recitations. Applicants disagree. Claims 42 and 64 have been canceled so the rejections are moot with respect to those claims. Claim 57 recites, "wherein said method comprises culturing **a** microorganism" (emphasis added), which Applicants believe does not require antecedent basis. The first time microorganism is recited it is introduced by the indefinite article "a". Thus, it does not refer back to anything in the

antecedent. Nevertheless, Applicants have also amended claim 57 and other claims so that "microorganism" is recited instead of "cell". Applicants believe that with these amendments and the above description, the rejection has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

Claim 50 has also been rejected for reciting "a biotechnological process". Claim 50 has been canceled so the rejection is moot. Withdrawal of the rejection is warranted and respectfully requested.

Claims 42-50, 56, 62, and 63 have been rejected because the Examiner asserts that the phrase "one or more of NADH and NADPH" is indefinite. Claims 42, 44, 47, 48, 50, 56, 62, and 63 have been canceled so the rejection with respect to those claims is moot. Regarding the claims that are still pending, the Examiner does not know if this phrase means "either or both of NADH and NADPH" or "one or more molecules of NADH and NADPH". Applicants acknowledge that it is the former. To make this clear, the claims still pending have been amended accordingly to include this language. Applicants believe that with this explanation and amendment the claim language is no longer vague nor indefinite. Withdrawal of the rejection is warranted and respectfully requested.

Claims 42, 53-55, and 62 have been rejected for reciting "polynucleotides express a protein". Applicants have canceled

these claims so the rejections are moot. Withdrawal of the rejections is warranted and respectfully requested.

Claims 54 and 55 have been rejected for reciting the language "a cellular process that normally results in depletion". Applicants have canceled these claims so the rejections are moot. Nevertheless, Applicants believe that this is explained in the written description. For example, at page 1, lines 14 to 21 it is explained how a cellular process can result in depletion of NAD or NADH. Thus, Applicants believe that there is nothing vague or indefinite about this term. Withdrawal of the rejection is warranted and respectfully requested.

Claim 58 is rejected for reciting "wherein the enzymes are dehydrogenases". Applicants have canceled this claim so the rejection is moot. Withdrawal of the rejection is warranted and respectfully requested.

**Rejections under 35 USC §112, first paragraph**

Claims 42, 43, 45, 46, 48, and 50-55 are rejected under 35 USC §112, first paragraph as allegedly lacking description.

Claims 42, 48, and 50-55 have been canceled so the rejection is moot with respect to those claims.

Applicants note that the Examiner has not rejected claim 44 in the above rejection. Thus, it is believed that the

recitation of the products made along with reciting the enzymes provides adequate written description. Accordingly, in this regard, the subject matter of claim 42 has been inserted into claim 43. In other words, the possible products made are now incorporated into claim 43. Thus, Applicants believe with this amendment that the rejection has been obviated. In this light, Applicants believe that the invention has been adequately described, for example, in claim 43 so that one of skill in the art would recognize that the Applicants had possession of the claimed invention at the time of filing the application. Please note that claims 45 and 46, which have also been rejected are dependent from claim 43. Because claim 43 is adequately described, claims 45 and 46 must also be adequately described. Withdrawal of the rejection is warranted and respectfully requested.

**Rejections under 35 USC §102**

Claims 42-47 and 62-65 are rejected under 35 USC §102(b) as being anticipated by Ingram '202 (US Patent No. 5,424,202).

Applicants traverse.

The Examiner asserts that Ingram '202 discloses ethanol production in *Klebsiella pneumoniae* comprising the ethanol dehydrogenase gene *adhB* from *Z. mobilis* wherein the transformant

produces ethanol more efficiently than the untransformed control.

Applicants have canceled claims 42, 44, 47, and 62-65, so the rejection is moot with respect to those claims. With respect to claim 43, Applicants have amended claim 43 to include the subject matter of claim 42 (i.e., the products made) with the exception of alcohol dehydrogenase. Applicants submit that none of the other enzymes that appear in claim 43 (and claims dependent therefrom) are disclosed or suggested by the disclosure of Ingram '202. Thus, Ingram '202 cannot anticipate the instant invention because Ingram '202 fails to disclose the elements of the instantly claimed invention. Withdrawal of the rejection is warranted and respectfully requested.

### **Conclusion**

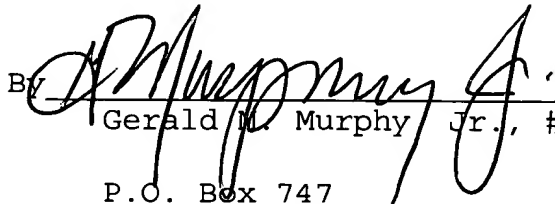
With the above remarks and amendments, it is believed that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

If any questions remain regarding the above matters, please contact Applicant's representative, T. Benjamin Schroeder (Reg. No. 50,990), in the Washington metropolitan area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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